



#5

SEQUENCE LISTING

<110> Gangolli, Esha A
Stone, David J

<120> ENDOZEPINE-LIKE PROTEINS, POLYNUCLEOTIDES ENCODING THEM
AND METHODS OF USING THE SAME

<130> 21402-213

<140> 09/997,594
<141> 2001-11-29

<150> 60/253,834
<151> 2000-11-29

<150> 60/264,180
<151> 2001-01-25

<150> 60/313,656
<151> 2001-08-20

<160> 62

<170> PatentIn Ver. 2.1

<210> 1
<211> 3887
<212> DNA
<213> Homo sapiens

<400> 1
ggaaactgac ctgcttagtt cccgggcctc ctccctttgg ggcatgttga tccgcggctg 60
cgctccatgt tccagttca tgcaggctct tggaaagct ggtgctgctg ctgcctgatt 120
cccgccaaaca gaccctggga ccggggccaa cactggcagc tggagatggc ggacacgaga 180
tccgtgcacg agactagtt tgagggcgcc gtgaaggtga tccagagttt gccgaagaat 240
ggttcattcc agccaacaaa taaaaatgtt atagcttcta taagcaggca 300
actgaaggac cctgtaaact ttcaaggcct ggattttggg atcctattgg aagatataaa 360
tggatgctt ggagttact gggtgatatg accaaagagg aagccatgtat tgcatatgtt 420
gaagaaatga aaaagattat taaaaactatg ccaatgactg agaaagttga agaattgctg 480
cgtgtcatag gtccattta taaaaattgtc gagacaaaaa agagtggcag gagttctgat 540
ataaacctcag atcttggtaa tttctcaact tctgtccga acgccaaaac cgttaatgtt 600
aaagctgaaa gcagtgcac tggagccgag tctgaggaag aagaggccca agaagaagtg 660
aaaggagcag aacaaaagtga taatgataag aaaaatgtga agaagtgcac agaccataag 720
aatttggaaag tcattgtcac taatggctat gataaagatg gctttgttca ggatatacag 780
aatgacattc atgccagttc ttcccctgaat ggcagaagca ctgaagaagt aaagcccatt 840
gatgaaaact tggggcaaac tggaaaatct gctgtttgc ttcaccaaga tataaatgtat 900
gatcatgtt aagatgttac aggaattcag cattgacaa gcgattcaga cagtgaagtt 960
tactgtgatt ctatgaaaca atttggacaa gaagagtctt tagacagtt tacgtccaaac 1020
aatggacat ttcagtattt cttgggttgtt cattccagtc aacccatgga aaattctgga 1080
tttcgtgaag atattcaagt acctccttggaa aatggcaaca ttggaaatat gcaggtggtt 1140
gcagttgaag gaaaaggtga agtcaagcat ggaggagaag atggcaggaa taacagcgg 1200
gcaccacacc gggagaagcg aggccggagaa actgacgaat tctctaattgt tagaagaggg 1260
agaggacata ggatacaaca cttgagcggaa ggaaccaagg gccggcaggt gggaaagtgg 1320
ggtgatgggg agcgctgggg ctccgacaga gggcccgag gcagcctcaa tgagcagatc 1380
gccctcgtgc tgatgagact gcaggaggac atgcagaatg tccttcagag actgcagaaa 1440
ctggaaacgc tgactgcttt gcaggcaaaa tcatcaacat caacattgca gactgctcct 1500

cagcccacct cacagagacc atcttggtgg cccttcgaga tgcgtccctgg tgcgtctaacg 1560
 tttgcctatca tatggccttt tattgcacag tgggtggtgt atttataacta tcaaagaagg 1620
 agaagaaaac tgaactgagg aaaatgggtt tttcctcaag aagactactg gaactggatg 1680
 acctcagaat gaactggatt gtgggtttca caagaaaatc ttagttgtg atgattacat 1740
 tgcttttgt tgcgtccatgt ttagttgtt gtacatatat acacatataat attttgcact 1800
 acacaaacga taacatttta aggactaata ttgcgtatac ttgaataatc aatctctact 1860
 aggttataag tagtatacac agatttaccc tgcccttgaa ctgtgaaggac attaaattat 1920
 taatgatcat ttggtaacat gtttacctga ttatcttcca tagagtaaca taagctgctt 1980
 ttcaaaaggta ccattgtgat aatgagatca aatttataag ttattatTT taatTTCTA 2040
 aattaaataa aaaaagaat gcaaaaccagg agtgaatttc aaatgagatg taatcgactt 2100
 tatacttag tcacggagtt gccatggcat gtatgaaaa accacaggaa gaatggtcat 2160
 attcacTTG tgggtggccc ataatcttc ttgggcatTC acaactcttT agttgggtgt 2220
 tcaggcatca ttatTTTTA gttggagtccT atgtaccAGA ctgagTTTT acaaATgatt 2280
 tgcaggctag acataaccca ctgatggaaa ttggtaagaa tgagcttcat gtatTTAA 2340
 aagtgtattc tgagcctgta gatgattaat cagTTTTA ttcaatcata taaatgtatt 2400
 cctttgtaat catTTTTGTT taactgagga tattctgtgt ctgcttata gggTgCTTg 2460
 aaatataaaa tgaaaactta ttataactgt ttatACAca gtcAAAAGG aaacacacGA 2520
 aaatcacttt tctgcactg atgaactata tagactggac tcttaacCTC ttatgcCTC 2580
 agttttccCT tcggggTata ctatTTAGA tacacctact tcacaggagt actggaggGA 2640
 ttgcAACGt aacggggccaa atgttccat aggaataagg catggccAGC taacAGAAat 2700
 ttaagtccCT cttccccacc tctctcatCT agaccaaaaaa gaagactaca atttagatCC 2760
 ttggagactt ttctgtatG cttccaaaaa cttcctgCTC acttagatgt accttgcTGT 2820
 ttgaagattt cttgtatgca gtcttGtaa caaaataattt ttTTTTAA atggagTTc 2880
 tctctgttG cccaggctgg agggcaatgg cgtatcttG gctcaCTgca acttccacCT 2940
 cctgggttca agtatttCTC ctgcctcact cccaaagtgc tgggattaca ggcattgcacc 3000
 accatgcctg gctaattttG tatttttagt agagacgggg tttctccatg ttgtaaaggc 3060
 tgaatctaaa ctcccaacct cagggtatCT gcctgcctG gcctccaaa gtgtggat 3120
 tagaggcgtg agccactgca cctggcctgt agcaaataat tttaaggat tctcaagatg 3180
 tatgatgttG ggttaacat catatgttca cagtGTTTA aataagaaat aatctgttCT 3240
 tagatacag gatggttCTT tgTTTGCCTG aaaagtataa gaatacaatt tacTTTCCC 3300
 aaactcttt tccttatttt ttcttCAA ataaactttaa ttatTTAATC ccatactgat 3360
 taaaatatgt ctgtctaaag ggatctacta ctatTTGCTT ttAAAAAAGT gttccCTatt 3420
 tatttaggaa aaagtgaagc aagcaactga atttatatgt aaaaataaca tttagacCTG 3480
 tggatcaaag attatTTCA aaaatgagat atcaatttGG tatcagtaaa aagtgtctt 3540
 tctcttagta tataaataaaa taaaatgcaa attaagagtg taagcagtG tgaatcatta 3600
 caaggagtct gggataacta actcctaggg ataaaccattt ctatcctgtt ccaaagtctt 3660
 attttatagt ttgaaaagca cttgcacac agttctgttataaaaAGTA aagatgtat 3720
 tataggatAT agtGTTcCTG cttgtttaa taagaacCTC atttaaactt gacagctatG 3780
 gtatTTTTT aatgataact tctttctgt ttattgtaaa actaagttaa aaataaaaagg 3840
 ttaatgagaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3887

<210> 2
 <211> 523
 <212> PRT
 <213> Homo sapiens

<400> 2
 Met Phe Gln Phe His Ala Gly Ser Trp Glu Ser Trp Cys Cys Cys Cys
 1 5 10 15
 Leu Ile Pro Ala Asp Arg Pro Trp Asp Arg Gly Gln His Trp Gln Leu
 20 25 30
 Glu Met Ala Asp Thr Arg Ser Val His Glu Thr Arg Phe Glu Ala Ala
 35 40 45

Val Lys Val Ile Gln Ser Leu Pro Lys Asn Gly Ser Phe Gln Pro Thr
 50 55 60

Asn Glu Met Met Leu Lys Phe Tyr Ser Phe Tyr Lys Gln Ala Thr Glu
 65 70 75 80

Gly Pro Cys Lys Leu Ser Arg Pro Gly Phe Trp Asp Pro Ile Gly Arg
 85 90 95

Tyr Lys Trp Asp Ala Trp Ser Ser Leu Gly Asp Met Thr Lys Glu Glu
 100 105 110

Ala Met Ile Ala Tyr Val Glu Glu Met Lys Lys Ile Ile Glu Thr Met
 115 120 125

Pro Met Thr Glu Lys Val Glu Glu Leu Leu Arg Val Ile Gly Pro Phe
 130 135 140

Tyr Glu Ile Val Glu Asp Lys Lys Ser Gly Arg Ser Ser Asp Ile Thr
 145 150 155 160

Ser Asp Leu Gly Asn Val Leu Thr Ser Ala Pro Asn Ala Lys Thr Val
 165 170 175

Asn Gly Lys Ala Glu Ser Ser Asp Ser Gly Ala Glu Ser Glu Glu Glu
 180 185 190

Glu Ala Gln Glu Glu Val Lys Gly Ala Glu Gln Ser Asp Asn Asp Lys
 195 200 205

Lys Met Met Lys Lys Ser Ala Asp His Lys Asn Leu Glu Val Ile Val
 210 215 220

Thr Asn Gly Tyr Asp Lys Asp Gly Phe Val Gln Asp Ile Gln Asn Asp
 225 230 235 240

Ile His Ala Ser Ser Ser Leu Asn Gly Arg Ser Thr Glu Glu Val Lys
 245 250 255

Pro Ile Asp Glu Asn Leu Gly Gln Thr Gly Lys Ser Ala Val Cys Ile
 260 265 270

His Gln Asp Ile Asn Asp Asp His Val Glu Asp Val Thr Gly Ile Gln
 275 280 285

His Leu Thr Ser Asp Ser Asp Ser Glu Val Tyr Cys Asp Ser Met Glu
 290 295 300

Gln Phe Gly Gln Glu Glu Ser Leu Asp Ser Phe Thr Ser Asn Asn Gly
 305 310 315 320

Pro Phe Gln Tyr Tyr Leu Gly Gly His Ser Ser Gln Pro Met Glu Asn
 325 330 335

Ser Gly Phe Arg Glu Asp Ile Gln Val Pro Pro Gly Asn Gly Asn Ile
 340 345 350

Gly Asn Met Gln Val Val Ala Val Glu Gly Lys Gly Glu Val Lys His
 355 360 365
 Gly Gly Glu Asp Gly Arg Asn Asn Ser Gly Ala Pro His Arg Glu Lys
 370 375 380
 Arg Gly Gly Glu Thr Asp Glu Phe Ser Asn Val Arg Arg Gly Arg Gly
 385 390 395 400
 His Arg Ile Gln His Leu Ser Glu Gly Thr Lys Gly Arg Gln Val Gly
 405 410 415
 Ser Gly Gly Asp Gly Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly
 420 425 430
 Ser Leu Asn Glu Gln Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp
 435 440 445
 Met Gln Asn Val Leu Gln Arg Leu Gln Lys Leu Glu Thr Leu Thr Ala
 450 455 460
 Leu Gln Ala Lys Ser Ser Thr Ser Thr Leu Gln Thr Ala Pro Gln Pro
 465 470 475 480
 Thr Ser Gln Arg Pro Ser Trp Trp Pro Phe Glu Met Ser Pro Gly Val
 485 490 495
 Leu Thr Phe Ala Ile Ile Trp Pro Phe Ile Ala Gln Trp Leu Val Tyr
 500 505 510
 Leu Tyr Tyr Gln Arg Arg Arg Lys Leu Asn
 515 520

<210> 3
 <211> 3920
 <212> DNA
 <213> Homo sapiens

<400> 3
 gggaaactgac ctgcttagtt cccgggcctc ctcctttgg ggcatgttga tccgcggctg 60
 cgctccatgt tccagttca tgcaggctct tggaaaagct ggtgctgctg ctgcctgatt 120
 cccgccaca gaccttggga ccggggccaa cactggcagc tggagatggc ggacacgaga 180
 tccgtgcacg agactagtt tgagggcgcc gtgaaggtga tccagagtt gccgaagaat 240
 ggttcatccc agccaacaaa tgaaatgatg cttaaatttt atagcttcta taagcaggca 300
 actgaaggac cctgtaaact ttcaaggcct ggattttggg atcctattgg aagatataaa 360
 tgggatgctt ggagttcaact gggtgatatg accaaagagg aagccatgtat tgcatatgtt 420
 gaagaaaatga aaaagattat tgaaactatg ccaatgactg agaaaagttga agaattgctg 480
 cgtgtcatag gtccatttt tgaaattgtc gaggacaaaa agagtggcag gagttctgtat 540
 ataaccctcag tccgactggaa gaaaatctct aaatgttttag aagatcttgg taatgttctc 600
 acttctgctc caaaacgccaa aaccgttaat ggttaaagctg aaagcagtga cagtggagcc 660
 gagtctgagg aagaagaggc ccaagaagaa gtgaaaggag cagaacaaaag tgataatgtat 720
 aagaaaaatga tgaagaagtc agcagaccat aagaatttgg aagtcttgc cactaatggc 780
 tatgataaaatg atggcttgc tcaggatata cagaatgaca ttcatgccag ttcttccctg 840
 aatggcagaa gcactgaaga agtaaagccc attgatgaaa acttggggca aactggaaaa 900
 tctgctgttt gcattcacca agatataaaat gatgatcatg ttgaagatgt tacaggaatt 960
 cagcatttga caagcgttcc agacagtgaa gtttactgtt attctatggaa acaatttggaa 1020

caagaagagt ctttagacag ctttacgtcc aacaatggac catttcagta ttacttgggt 1080
ggtcattcca gtcaaccat gaaaaattct ggattcgtg aagatattca agtacccct 1140
ggaaatggca acattggaa tatgcaggtg gttcagttt aaggaaaagg tgaagtcaag 1200
catggaggag aagatggcag gaataacacg ggagcaccc accgggagaa gcgaggcgg 1260
gaaactgacg aattctctaa tgtagaaga ggaagaggac ataggataca acacttgagc 1320
gaaggaacca agggccggca ggtggaaagt ggaggtgatg gggagcgctg gggctccgac 1380
agagggtccc gaggcagcct caatgagcag atcgcctcg tgctgtatgag actgcaggag 1440
gacatgcaga atgtccttca gagactgcag aaactggaaa cgctgactgc tttgcaggca 1500
aatatcatcaa catcaacatt gcagactgct cctcagccca cctcacagag accatcttgg 1560
tggcccttcg agatgtctcc tggtgtgcta acgtttgcca tcataatggcc ttttattgca 1620
cagtgggtgg tgtatttata ctatcaaaga aggagaagaa aactgaactg aggaaaatgg 1680
tggtttcctc aagaagacta ctggaactgg atgacctcag aatgaactgg attgtgggt 1740
tcacaagaaa atcttagttt gtgatgatta cattgcttt tggtgtccag tagtttagtt 1800
tgtgtacata tatacacata tatatttgc actacacaaa cgataacatt ttaaggacta 1860
atattgtcga tacttgaata atcaatctc actaggttat aagtatata cacagattta 1920
ccctgccccctt gaacttgaag gacattaaat tattaatgat catttggtaa catgtttacc 1980
tgattatctt ccatagaga acataagctg ctttcaaag gtaccattgt gataatgaga 2040
tcaaatttat aagttattat ttttaatttt ctaaattaaa taaaagaaaag aatgcaaaacc 2100
aggagtgaat ttcaaatgag atgtaatcga ctttataatct tagtcacgg gttccatgg 2160
catgttagtag aaaaccacag gaagaatggg catattcact ttgtggctg cccataatct 2220
ttcttgggca ttccacaactc ttgagtttgg tggtcaggca tcattattaa aaagtggagt 2280
cctatgtacc agactgagtt ttacaaatg atttgcaggc tagacataac ccactgatgg 2340
aaatgggtgaa gaatgagctt catgttaggtt taaaagtgtt ttctgagcct gtagatgatt 2400
aatcaggttt ttattcaatc atataaatgt attccctttgt aatcatttt gtttaactga 2460
ggatatatctag tgctctgttc atagggtgct ttgaaatata aatgaaaac ttatttatac 2520
tggttttaca acagtcaaaa agggaaacaca cgaaaatcac tttctgcaaa ctgatgaact 2580
atataagactg gactcttaac ctcttagtgc ctcagtttt ctttcgggt atactatttt 2640
agatacacct acttcacagg agtactggag ggatttgc当地 gctaacggc caaatgcttc 2700
cataggaata aggcatttccc agctaacaga aatttaatgc ccttcccc accctctca 2760
tctagaccaa aaagaagact acaattttaga tccttggaga ctttccctgt atgccttcca 2820
aaacttccctg ctcaacttaga tgtaccttgc gcttgaaga tttcttgat gcagtctttg 2880
taacaaataa tttttttttt taaatggagt ttctcttgc ttgcccaggc tggagggcaa 2940
tggcgtgatc ttggctact gcaacttcca cctctgggt tcaagtgtt ctcctgcctc 3000
actcccaagt agctgggatt acaggcatgc accaccatgc ctggctaatt ttgtattttt 3060
agtagagacg gggtttctcc atgttggtaa ggctgatctc aaactccaa cctcaggtga 3120
tctgcctgcc tcggcctccc aaagtgttgg gatttagaggc gtgagccact gcacctggcc 3180
tgttagcaaat aatttttaag cattctcaag atgtatgtt ttgggtttaa catcatatgt 3240
tcacagtgtt ttaataataa aataatctgt ctttagtata caggatggtt ctttgggttgc 3300
ctgaaaagta taagaataca atttacttt cccaaactct tttcccttat tttttcttt 3360
caaataact taatttattt atcccataact gataaaata tgcctgtctc aaggatctc 3420
ctactatttgc tttttaaaaa agtgttccctt atttattttg gaaaaagtga agcaagcaac 3480
tgaatttata tgtaaaaaata acatttagac ctgtggatca aagattattt tcaaaaatga 3540
gatataattt tggtatcgt aaaaagtgtc tttctctta gtatataaat aaataaaaatg 3600
caaattaaga gtgtaaagcag ttgtgaatca ttacaagcag tctggataa ctaactccta 3660
gggataacca tttctatctt gttccaaagt ctttattttt agtttggaaa gcactttgca 3720
cacagttctt gtatataaaa gtaaaagatgt aattatagga tatagtgttc ctgctttgtt 3780
taataagaac ctcatattaa cttgacagct atgttatttt ttaatgata acttctttc 3840
tggtttatgtt aaaactaagt taaaataaa agttaatga gaaaaaaaaaaa aaaaaaaaaaa 3900
aaaaaaaaaaa aaaaaaaaaaaa 3920

<210> 4
<211> 3920
<212> DNA
<213> Homo sapiens

<400> 4

gggactgac ctgcttagtt cccgggcctc ctccctttgg ggcatgttga tccgcggctg 60
 cgctccatgt tccagttca tgcaggctct tggaaagct ggtgctgctg ctgcctgatt 120
 cccgcccaca gaccctggga ccggggccaa cactggcagc tggagatggc ggacacgaga 180
 tccgtgcacg agactagtt tgaggcgcc gtgaaggtga tccagagttt gccgaagaat 240
 ggtcattcc agccaacaaa tgaaatgatg cttaaatttt atagcttcta taagcaggca 300
 actgaaggac cctgtaaact ttcaaggct ggattttggg atcctattgg aagatataaa 360
 tggatgctt ggagttact gggtgatatg accaaagagg aagccatgtat tgcatatgtt 420
 gaagaaatga aaaagattat tgaaactatg ccaatgactg agaaagttga agaattgctg 480
 cgtgtcatag gtccattta tgaaattgtc gaggacaaaa agagtggcag gagttctgtat 540
 ataacctcag tccgactgga gaaaatctt aatgttttag aagatcttgg taatgttctc 600
 acttctgctc cgaacgccaa aaccgttaat ggtaaagctg aaagcagtga cagtggagcc 660
 gagtctgagg aagaagaggc ccaagaagaa gtgaaaggag cagaacaaag tgataatgtat 720
 aagaaaatga tgaagaagtc agcagaccat aagaatttg aagtcttgc cactaatggc 780
 tatgataaag atggcttgc tcaggatata cagaatgaca ttcatgccag ttctccctg 840
 aatggcagaa gcactgaaga agtaaagccc attgatgaaa acttggggca aactggaaaa 900
 tctgctgtt gcattcacca agatataat gatgatcatg ttgaagatgt tacaggaatt 960
 cagcatttga caagcatttgc agacagtgaa gttactgtg attctatgg acaatttgaa 1020
 caagaagagt ctttagacag cttagtgc aacaatggac catttcagta ttacttgggt 1080
 ggtcattcca gtcaacccat ggaaaattct ggatttcgtg aagatattca agtacctct 1140
 ggaaatggca acattggaa tatgcagggtg gttcagttg aaggaaaagg tgaagtcaag 1200
 catggaggag aagatggcag gaataacagc ggagcaccac accggggagaa gtgaggcgg 1260
 gaaactgacg aattctctaa tggtagaaga ggaagaggac ataggataca acacttgagc 1320
 gaaggaacca agggccggca ggtggaaagt ggaggtgatg gggagcgctg gggctccgac 1380
 agagggtccc gaggcaggct caatgagcag atgccttc tgctgatgag actgcaggag 1440
 gacatgcaga atgtccttca gagactgcag aaactggaaa cgctgactgc tttcaggca 1500
 aaatcatcaa catcaacatttgcagactgt cctcagcccc cctcacagag accatcttgg 1560
 tggcccttcg agatgtctcc tggtgtgcta acgtttggca tcataatggcc ttttatttgc 1620
 cagtggttgg tggtagtata ctatcaaaga aggagaagaa aactgaactg agggaaaatgg 1680
 tggtagtgc aagaagacta ctggactgg atgacctcag aatgaactgg attgtgggt 1740
 tcacaagaaa atcttagttt gtgatgatta cattgcttt tggtagtgc tagtttagtt 1800
 tgtgtacata tatacacata tataatttgc actacacaaa cgataacatt ttaaggacta 1860
 atattgctga tacttgaata atcaatctt actagttat aagtagtata cacagattta 1920
 ccctgcccctt gaacttgaag gacattaaat tattaatgtat catttggtaa catgtttacc 1980
 tgattatctt ccatagagta acataagctg cttagtgc aatgttgc gataatgaga 2040
 tcaaaatttat aagttattat ttttattttt ctaaattaaa taaaagaaaag aatgcaaaacc 2100
 aggagtgaat ttcaaatgag atgtatcga ctttatatct tagtcacggg gttccatgg 2160
 catgttagtag aaaaccacag gaagaatggt catattact ttgtgggtg cccataatct 2220
 ttcttggca ttccacaactt ttgagttgg tggtagtgc tcattattaa aaagtggagt 2280
 cctatgtacc agactgagtt ttacaatg atttgcaggc tagacataac ccactgatgg 2340
 aaatgggtgaa gaatgagctt catgttagtt taaaagtgta ttctgaggct gtatgtatt 2400
 aatcagggttt ttattcaatc atataaatgtt atccctttgt aatcattttt gtttactga 2460
 ggatatcttag tggctgcctc atagggtgctt ttgaaatata aatgaaaac ttatttatac 2520
 tggtagtgc acagtcaaaa aggaaacaca cgaaaatcac ttttctgca ctgtact 2580
 atatacgactg gactcttac ctttttttgc ctttttttgc ctttttttgc atactatttt 2640
 agatacacctt acttcacagg agtactggag ggatttgcaaa gctaacgggc caaatgcttc 2700
 cataggaata aggcatgccc agctaacaga aatttaatgtt ctttttttgc acctctctca 2760
 tcttagaccaaa aaagaagactt acaatttgc ttttttttgc ctttttttgc atgccttcca 2820
 aaacttcctt ctttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2880
 taacaaataaa ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 2940
 tggctgcctc ttggctgcctc gcaacttcca ctttttttgc ttttttttgc ttttttttgc 3000
 actcccaagt agtgggattt acaggcatgc accaccatgc ctggcttcaattt ttgtatgttt 3060
 agtagagacg gggtttctcc atgttggtaa ggctgatctc aaactcccaa ctttttttgc 3120
 tctgccttgc tggctgcctc aaagtgcctt gatttagaggc gtgaggccactt gcacctggcc 3180
 ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 3240
 tcacagtgtt ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 3300
 ctgaaaatgtt ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 3360
 caaataactt taatttattta atccctactt gatttttttgc ttttttttgc ttttttttgc 3420

ctactatttgcctttaaaaaa agtgtcccttattatggtag gaaaaaagtga agcaagcaac 3480
 tgaatttata tgtaaaaata acattnagac ctgtggatca aagattattt tcaaaaatga 3540
 gatatcaatt tggtatcgt aaaaagtgtc ttttcttta gtatataaat aaataaaatg 3600
 caaattaaga gtgttaaggcag ttgtgaatca ttacaaggcag tctgggataa ctaactccta 3660
 gggataacca ttctatcct gttccaaagt cttatggat agtttgaaaaa gcactttgca 3720
 cacagttctt gtatataaaa gtaaagatgt aattatagga tatagtgttc ctgctttgtt 3780
 taataagaac ctcattttaa cttgacagct atgttattt ttatgtata acttctttc 3840
 tgtttattgt aaaactaagt taaaataaaa aggttaatga gaaaaaaaaaaa 3900
 aaaaaaaaaa aaaaaaaaaa 3920

<210> 5

<211> 533

<212> PRT

<213> Homo sapiens

<400> 5

Met	Phe	Gln	Phe	His	Ala	Gly	Ser	Trp	Glu	Ser	Trp	Cys	Cys	Cys	Cys
1															

Leu	Ile	Pro	Ala	Asp	Arg	Pro	Trp	Asp	Arg	Gly	Gln	His	Trp	Gln	Leu
20															30

Glu	Met	Ala	Asp	Thr	Arg	Ser	Val	His	Glu	Thr	Arg	Phe	Glu	Ala	Ala
35															45

Val	Lys	Val	Ile	Gln	Ser	Leu	Pro	Lys	Asn	Gly	Ser	Phe	Gln	Pro	Thr
50															60

Asn	Glu	Met	Met	Leu	Lys	Phe	Tyr	Ser	Phe	Tyr	Lys	Gln	Ala	Thr	Glu
65															80

Gly	Pro	Cys	Lys	Leu	Ser	Arg	Pro	Gly	Phe	Trp	Asp	Pro	Ile	Gly	Arg
85															95

Tyr	Lys	Trp	Asp	Ala	Trp	Ser	Ser	Leu	Gly	Asp	Met	Thr	Lys	Glu	Glu
100															110

Ala	Met	Ile	Ala	Tyr	Val	Glu	Glu	Met	Lys	Lys	Ile	Ile	Glu	Thr	Met
115															125

Pro	Met	Thr	Glu	Lys	Val	Glu	Glu	Leu	Leu	Arg	Val	Ile	Gly	Pro	Phe
130															140

Tyr	Glu	Ile	Val	Glu	Asp	Lys	Lys	Ser	Gly	Arg	Ser	Ser	Asp	Ile	Thr
145															160

Ser	Val	Arg	Leu	Glu	Lys	Ile	Ser	Lys	Cys	Leu	Glu	Asp	Leu	Gly	Asn
165															175

Val	Leu	Thr	Ser	Ala	Pro	Asn	Ala	Lys	Thr	Val	Asn	Gly	Lys	Ala	Glu
180															190

Ser	Ser	Asp	Ser	Gly	Ala	Glu	Ser	Glu	Glu	Glu	Ala	Gln	Glu	Glu	
195															205

Val Lys Gly Ala Glu Gln Ser Asp Asn Asp Lys Lys Met Met Lys Lys

210	215	220
Ser Ala Asp His Lys Asn Leu Glu Val Ile Val Thr Asn Gly Tyr Asp		
225	230	235
Lys Asp Gly Phe Val Gln Asp Ile Gln Asn Asp Ile His Ala Ser Ser		
245	250	255
Ser Leu Asn Gly Arg Ser Thr Glu Glu Val Lys Pro Ile Asp Glu Asn		
260	265	270
Leu Gly Gln Thr Gly Lys Ser Ala Val Cys Ile His Gln Asp Ile Asn		
275	280	285
Asp Asp His Val Glu Asp Val Thr Gly Ile Gln His Leu Thr Ser Asp		
290	295	300
Ser Asp Ser Glu Val Tyr Cys Asp Ser Met Glu Gln Phe Gly Gln Glu		
305	310	315
Glu Ser Leu Asp Ser Phe Thr Ser Asn Asn Gly Pro Phe Gln Tyr Tyr		
325	330	335
Leu Gly Gly His Ser Ser Gln Pro Met Glu Asn Ser Gly Phe Arg Glu		
340	345	350
Asp Ile Gln Val Pro Pro Gly Asn Gly Asn Ile Gly Asn Met Gln Val		
355	360	365
Val Ala Val Glu Gly Lys Gly Glu Val Lys His Gly Gly Glu Asp Gly		
370	375	380
Arg Asn Asn Ser Gly Ala Pro His Arg Glu Lys Gly Gly Glu Thr Asp		
385	390	395
Glu Phe Ser Asn Val Arg Arg Gly Arg Gly His Arg Ile Gln His Leu		
405	410	415
Ser Glu Gly Thr Lys Gly Arg Gln Val Gly Ser Gly Gly Asp Gly Glu		
420	425	430
Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu Gln Ile		
435	440	445
Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val Leu Gln		
450	455	460
Arg Leu Gln Lys Leu Glu Thr Leu Thr Ala Leu Gln Ala Lys Ser Ser		
465	470	475
Thr Ser Thr Leu Gln Thr Ala Pro Gln Pro Thr Ser Gln Arg Pro Ser		
485	490	495
Trp Trp Pro Phe Glu Met Ser Pro Gly Val Leu Thr Phe Ala Ile Ile		
500	505	510
Trp Pro Phe Ile Ala Gln Trp Leu Val Tyr Leu Tyr Tyr Gln Arg Arg		

515

520

525

Arg Arg Lys Leu Asn
530

<210> 6
<211> 3920
<212> DNA
<213> Homo sapiens

<400> 6
ggaaactgac ctgcttagtt cccgggcctc ctccctttgg ggcatgttga tccgcggctg 60
cgctccatgt tccagttca tgcaggctct tggaaagact ggtgctgctg ctgcctgatt 120
cccgccgaca gacctggga ccggggccaa cactggcagc tggagatggc ggacacgaga 180
tccgtgcacg agacttaggt tgaggcggcc gtgaagggtga tccagagttt gccgaagaat 240
ggttcattcc agccaacaaa tgaaatgatg cttaaatttt atagcttcta taagcaggca 300
actgaaggac cctgtaaact ttcaaggcct ggatttggg atcctattgg aagatataaa 360
tgggatgctt ggagttcaact gggtgatatg accaaagagg aagccatgtat tgcataatgtt 420
gaagaaatga aaaagattat tgaaaactatg ccaatgactg agaaaaggatgagaattgctg 480
cgtgtcatag gtccattttt tgaaattgtc gaggacaaaa agagtggcag gagttctgat 540
ataacctcag tccgactgga gaaaatcttctt aatgttttag aagatcttgg taatgttctc 600
acttctgctc cgaacgccaa aaccgttaat ggtaaagctg aaagcagtga cagtggagcc 660
gagtctgagg aagaagaggc ccaagaagaa gtggaaaggag cagaacaaaag tgataatgtat 720
aagaaaatga tgaagaagtc agcagaccat aagaatttgg aagtcttgc tcaaatggc 780
tatgataaaatg atgctttgt tcaggatata cagaatgaca ttcatgccc ttcttccctg 840
aatggcagaa gcactgaaga agttaagccc attgatgaaa acttgggca aactggaaaa 900
tctgctgttt gcattcacca agatataaat gatgatcatg ttgaagatgt tacaggaatt 960
cagcatttga caagcgttcc agacagtgaa gtttactgtg attctatggaa acaatttggaa 1020
caagaagagt ctttagacag cttagtcc aacaatggac catttcagta ttacttgggt 1080
ggtcattcca gtcaacccat ggaaaattct ggatttcgtg aagatattca agtacctcct 1140
ggaaatggca acattggaa tatgcaggtg gttcagttg aaggaaaaagg tgaagtcaag 1200
catggaggag aagatggcag gaataacagc ggagcaccac accgggagaa gcgaggcgg 1260
gaaactgacg aattctctaa tgtagaaaga ggaagaggac ataggatgca acacttgagc 1320
gaaggaacca agggccggca ggtggaaagt ggaggtgatg gggagcgtg gggctccgac 1380
agagggtccc gagcgcgcct caatgagcag atgcgcctcg tgctgatgag actgcaggag 1440
gacatgcaga atgtccttca gagactgcag aaactggaaa cgctgactgc tttgcaggca 1500
aaatcatcaa catcaacatt gcagactgct cctcagccca cctcagacag accatcttgg 1560
tggcccttcg agatgtctcc tgggtgtcta acgtttgccca tcatatggcc ttttattgca 1620
cagtggttgg tgtatttata ctatcaaaga aggagaagaa aactgaactg agggaaaatgg 1680
tgtttcctc aagaagacta ctggaactgg atgacctcag aatgaactgg attgtgggt 1740
tcacaagaaa atcttagttt gtgatgatta cattgtttt tggtgtccag tagtttagtt 1800
tgtgtacata tatacacata tatatttgc actacacaaa cgataacatt ttaaggacta 1860
atattgtga tacttgaata atcaatcttct acttaggttat aagttagtata cacagattt 1920
ccctgcccgtt gaacttgaag gacattaaat tattaatgtat catttggtaa catgtttacc 1980
tgattatctt ccatagagta acataagctg ctttcaaag gtaccattgt gataatgaga 2040
tcaaatttat aagttattat ttttaatttt ctaaattaaa taaaagaaaag aatgcaaacc 2100
aggagtgaat ttcaaatgag atgtaatcga ctttatatct tagtcacggc gttccatgg 2160
catgttagtag aaaaccacag gaagaatggt catattcact ttgtggctg cccataatct 2220
ttcttggca ttccacaactc ttgagtttgg tggtcaggca tcattattaa aaagtggagt 2280
cctatgtacc agactgagtt ttacaaaatg attgcaggc tagacataac ccactgatgg 2340
aaatggtaa gaatgagctt catgttaggtt taaaagtgta ttctgagcct gtagatgatt 2400
aatcaggttt ttattcaatc atataaatgtt atccctttgtt aatcattttt gtttaactga 2460
ggatatctag tgctgcttc atagggtgct ttgaaatata aatgaaaac ttatttatac 2520
tgttttaca acagtcaaaa aggaaacaca cgaaaatcac ttttctgcaa ctgtatgact 2580
atatagactg gactcttaac ctcttagtgc ctcaatgtttt cttcggggtt atactatttt 2640
agatacacactt acttcacagg agtactggag ggatttgcaaa gctaacgggc caaatgcttc 2700

cataggaata aggcataccc agctaacaga aatthaagtc cctttcccc acctctctca 2760
tcttagaccaa aaagaagact acaattaga tccttggaga ctttcctgt atgccttcca 2820
aaacttcctg ctcacttaga tgtaccttgt gcttgaaga tttcttgat gcagtcttg 2880
taacaataa tttttttt taaatggagt ttctctttt tgcccaggc tggagggcaa 2940
tggcgtgatc ttggctcaact gcaacttcca cctccgggt tcaagtgatt ctccctgcctc 3000
actcccaagt agctgggatt acaggcatgc accaccatgc ctggctaatt ttgtatTTT 3060
agtagagacg gggttctcc atgttggtaa ggctgatctc aaactccaa cctcaggta 3120
tctgcctgcc tcggcctccc aaagtgcgg gattagaggc gtgagccact gcacctggcc 3180
tgttagcaaat aatttttaag cattctcaag atgtatgatg ttgggtttaa catcatatgt 3240
tcacagtgtt ttaaataaga aataatctgt ctttagtata caggatgggt cttgtttgc 3300
ctgaaaagta taagaataca atttacttt cccaaactct tttcccttat tttttctt 3360
caaataactt taatttattt atcccataact gattaaaata tgtctgtcta aaggatcta 3420
ctactatttgc tttaaaaaaa agtgttccct atttatttag gaaaaagtga agcaagcaac 3480
tgaatttata tgtaaaaata acattttagac ctgtggatca aagattattt tcaaaaatga 3540
gatataattt tggtatcagt aaaaagtgtc tttctctta gtatataaaat aaataaaaatg 3600
caaattaaga gtgttaagc ttgtgaatca ttacaaggcag tctggataa ctaactccta 3660
gggataacca tttctatcct gttccaaagt cttattttat agtttggaaa gcactttgca 3720
cacagttctt gtatataaaa gtaaagatgt aattatagga tatagtgttc ctgctttgtt 3780
taataagaac ctcattttaa cttgacagct atggatTTT ttaatgata acttctttc 3840
tgtttattgt aaaactaagt taaaaataaa aggttaatga gaaaaaaaaaaa aaaaaaaaaaa 3900
aaaaaaaaaa aaaaaaaaaaa 3920

<210> 7

<211> 534

<212> PRT

<213> Homo sapiens

<400> 7

Met	Phe	Gln	Phe	His	Ala	Gly	Ser	Trp	Glu	Ser	Trp	Cys	Cys	Cys	Cys
1															15

Leu	Ile	Pro	Ala	Asp	Arg	Pro	Trp	Asp	Arg	Gly	Gln	His	Trp	Gln	Leu
															30

Glu	Met	Ala	Asp	Thr	Arg	Ser	Val	His	Glu	Thr	Arg	Phe	Glu	Ala	Ala

35															

Val	Lys	Val	Ile	Gln	Ser	Leu	Pro	Lys	Asn	Gly	Ser	Phe	Gln	Pro	Thr

50															

Asn	Glu	Met	Met	Leu	Lys	Phe	Tyr	Ser	Phe	Tyr	Lys	Gln	Ala	Thr	Glu

65															

Gly	Pro	Cys	Lys	Leu	Ser	Arg	Pro	Gly	Phe	Trp	Asp	Pro	Ile	Gly	Arg

Tyr	Lys	Trp	Asp	Ala	Trp	Ser	Ser	Leu	Gly	Asp	Met	Thr	Lys	Glu	Glu

100															

105

110

120

125

130

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

125

135

140

115

145	150	155	160
Ser Val Arg Leu Glu Lys Ile Ser Lys Cys Leu Glu Asp Leu Gly Asn			
165	170	175	
Val Leu Thr Ser Ala Pro Asn Ala Lys Thr Val Asn Gly Lys Ala Glu			
180	185	190	
Ser Ser Asp Ser Gly Ala Glu Ser Glu Glu Glu Ala Gln Glu Glu			
195	200	205	
Val Lys Gly Ala Glu Gln Ser Asp Asn Asp Lys Lys Met Met Lys Lys			
210	215	220	
Ser Ala Asp His Lys Asn Leu Glu Val Ile Val Thr Asn Gly Tyr Asp			
225	230	235	240
Lys Asp Gly Phe Val Gln Asp Ile Gln Asn Asp Ile His Ala Ser Ser			
245	250	255	
Ser Leu Asn Gly Arg Ser Thr Glu Glu Val Lys Pro Ile Asp Glu Asn			
260	265	270	
Leu Gly Gln Thr Gly Lys Ser Ala Val Cys Ile His Gln Asp Ile Asn			
275	280	285	
Asp Asp His Val Glu Asp Val Thr Gly Ile Gln His Leu Thr Ser Asp			
290	295	300	
Ser Asp Ser Glu Val Tyr Cys Asp Ser Met Glu Gln Phe Gly Gln Glu			
305	310	315	320
Glu Ser Leu Asp Ser Phe Thr Ser Asn Asn Gly Pro Phe Gln Tyr Tyr			
325	330	335	
Leu Gly Gly His Ser Ser Gln Pro Met Glu Asn Ser Gly Phe Arg Glu			
340	345	350	
Asp Ile Gln Val Pro Pro Gly Asn Gly Asn Ile Gly Asn Met Gln Val			
355	360	365	
Val Ala Val Glu Gly Lys Gly Glu Val Lys His Gly Gly Glu Asp Gly			
370	375	380	
Arg Asn Asn Ser Gly Ala Pro His Arg Glu Lys Arg Gly Gly Glu Thr			
385	390	395	400
Asp Glu Phe Ser Asn Val Arg Arg Gly Arg Gly His Arg Met Gln His			
405	410	415	
Leu Ser Glu Gly Thr Lys Gly Arg Gln Val Gly Ser Gly Gly Asp Gly			
420	425	430	
Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu Gln			
435	440	445	
Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val Leu			

450

455

460

Gln Arg Leu Gln Lys Leu Glu Thr Leu Thr Ala Leu Gln Ala Lys Ser
465 470 475 480

Ser Thr Ser Thr Leu Gln Thr Ala Pro Gln Pro Thr Ser Gln Arg Pro
485 490 495

Ser Trp Trp Pro Phe Glu Met Ser Pro Gly Val Leu Thr Phe Ala Ile
500 505 510

Ile Trp Pro Phe Ile Ala Gln Trp Leu Val Tyr Leu Tyr Tyr Gln Arg
515 520 525

Arg Arg Arg Lys Leu Asn
530

<210> 8
<211> 3920
<212> DNA
<213> Homo sapiens

<400> 8

gggaactgac ctgcttagtt cccgggcctc ctccctttgg ggcatgttga tccgcggctg 60
cgctccatgt tccagttca tgcaggctct tggaaagct ggtgctgctg ctgcctgatt 120
cccgccgaca gacctggga ccggggccaa cactggcagc tggagatggc ggacacgaga 180
tccgtgcacg agacttaggtt tgagggcggcc gtgaaggtga tccagagtt gccgaagaat 240
ggttcattcc agccaacaaa taaaaatgtt cttaaatttt atagcttcta taagcaggca 300
actgaaggac cctgtaaact ttcaaggcct ggattttggg atcctattgg aagatataaa 360
tgggatgctt ggagttcaact gggtgatatg accaaagagg aagccatgtat tgcatatgtt 420
gaagaaaatga aaaagattat taaaaactatg ccaatgactg agaaagttaa agaattgctg 480
cgtgtcatag gtccattttt taaaaattgtc gaggacaaaa agagtggcag gagttctgtat 540
ataaacctcag tccgactgga gaaaatctt aaatgttttag aagatcttgg taatgttctc 600
acttctgctc cgaacgccaa aaccgttaat ggtaaagctg aaagcagtga cagtggagcc 660
gagtctgagg aagaagagggc ccaagaagaa gtgaaaggag cagaacaaag tgataatgtat 720
aagaaaatga tgaagaagtc agcagaccat aagaattttgg aagtcatgtt cactaatggc 780
tatgataaaag atgctttgt tcagggatata cagaatgaca ttcatggcag ttctccctg 840
aatggcagaa gcactgaaga agttaaagccc attgtgaaa acttgggca aactggaaaa 900
tctgctgttt gcattcacca agatataat gatgatcatg ttgaagatgt tacaggaatt 960
cagcatttga caagcgattc agacagttaa gtttactgtt attctatggaa acaatttggaa 1020
caagaagagt ctttagacag cttagtgcctt aacaatggac catttcagta ttacttgggt 1080
ggtcatttca gtcaacccat ggaaaattct ggatttcgtt aagatattca agtacctcct 1140
ggaaaatggca acattgggaa tatgcagggtt gttcagttt aaggaaaagg tgaagtcaag 1200
catggaggag aagatggcag gaataacagc ggagcaccac accggggagaa gcgaggcgg 1260
gaaactgacg aattctctaa tggtaaaga ggaagaggac ataggataca acacttgac 1320
gaaggaacca agggccggca ggtggaaagt ggaggtgtt gggagcgtt gggctccgac 1380
agagggtccc gaggcagctt caatgacgtt atgccttcgtt tgctgtatgg actgcaggag 1440
gacatgcaga atgtccttca gagactgcag aaactggaaa cgctgactgc tttgcaggca 1500
aaatcatcaa catcaacatt gcagactgtt cctcagccca cctcacagag accatcttgg 1560
tggcccttcg agatgtctcc tggtgtgttca acgtttggca tcataatggcc ttttattgca 1620
cagtgggttgg tggatgttata ctatcaaga aggagaagaa aactgaactg agaaaaatgg 1680
tggatgttcc aagaagaata ctggaaactgg atgaccttagt aatgaactgg attgtgggtt 1740
tcacaagaaa atcttagttt gtgtatgatca cattgtttt tggatgtccag tagtttagtt 1800
tgtgtacata tatacacata tataatggactacacaaa cgataacatt ttaaggacta 1860
atattgttca tacttgaata atcaatcttca acttagttt aagtagtata cacagattt 1920
ccctggccctt gaacttgaag gacattaaat tattaatgtt cattggtaa catgtttacc 1980

tgatatacttt	ccatagagta	acataagctg	cttttcaaag	gtaccattgt	gataatgaga	2040
tcaaatttat	aagttattat	tttaatttt	ctaaattaaa	taaaagaaaag	aatgc当地	2100
aggagtgaat	ttcaaatgag	atgtaatcga	cttataatct	tagtcacgg	gttgc当地	2160
catgttagtag	aaaaccacag	gaagaatgg	catattcact	ttgtgggctg	cccataatct	2220
ttcttgggca	ttcacaactc	ttgagtttg	tgttcaggca	tcattattaa	aaagtggag	2280
cctatgtacc	agactgagtt	tttacaaaatg	atttgcaggc	tagacataac	ccactgatgg	2340
aatgggtgaa	gaatgagctt	catgttaggtt	taaaagtgtt	ttctgagcct	gtagatgatt	2400
aatcagggtt	ttattcaatc	atataaatgt	attcctttgt	aatcattttt	gtttaactga	2460
ggatatctag	tgtctgcttc	atagggtgct	ttgaaaatata	aatgaaaac	ttatttatac	2520
tgttttaca	acagtcaaaa	aggaaacaca	cggaaaatcac	tttctgcaa	ctgatgaact	2580
atatagactg	gactcttaac	ctcttagtgc	ctcagtttt	ccttcggggt	atactatttt	2640
agatacacct	acttcacagg	agtactggag	ggatttgcaa	gctaaccggc	caaatgctc	2700
cataggaata	aggcatgcc	agctaacaga	aatttaagtc	cctctcccc	acctctctca	2760
tctagaccaa	aaagaagact	acaatttaga	tccttggaga	cttttctgt	atgccttcca	2820
aaacttcctg	ctcacttaga	tgtaccttgc	gtttaactga	tttctttgat	gcagtcttg	2880
taacaaataa	tttttttttt	taaatggagt	ttctctcttg	ttgcccaggc	ttggagggcaa	2940
tggcgtgatc	ttggctca	gcaacttcca	cctcctgggt	tcaagtgatt	ctcctgcctc	3000
actcccaagt	agctgggatt	acaggcatgc	accaccatgc	ctggctaatt	ttgttatttt	3060
agtagagacg	gggtttctcc	atgttggtaa	ggctgatctc	aaactcccaa	cctcaggta	3120
tctgcctgccc	tcggcctccc	aaagtgtgg	gattagaggc	gtgaggccact	gcacctggcc	3180
tgttagcaa	aattttaag	cattctcaag	atgtatgatg	ttgggtttaa	catcatatgt	3240
tcacagtgtt	ttaaataaga	aataatctgt	ctttagtata	caggatgg	tttgc当地	3300
ctgaaaagta	taagaataca	atttactttt	cccaaactct	tttctttat	ttttttctt	3360
caaataactt	taatttatta	atcccaact	gattaaaata	tgtctgtcta	agggatcta	3420
ctactattt	ctttaaaaaa	agtgtccct	atttattttag	aaaaaaagtga	agcaagcaac	3480
tgaatttata	tgtaaaaata	acatttagac	ctgtggatca	aagattattt	tcaaaaatga	3540
gatataattt	tggtatcgt	aaaaagtgtc	ttttctctta	gtatataat	aaataaaaatg	3600
caaattaaga	gtgtaaagcag	ttgtgaatca	ttacaaggag	tctggataa	ctaactccct	3660
gggataacca	tttctatcct	gttccaaatg	cttattttat	agtttggaaa	gcactttgca	3720
cacagttctt	gtatataaaa	gtaaagatgt	aattatagga	tatagtgtt	ctgctttgtt	3780
taataagaac	ctcattttaa	cttgacagct	atggtatttt	tttaatgata	acttctttc	3840
tgtttattgt	aaaactaagt	taaaaataaa	aggttaatga	aaaaaaaaaa	aaaaaaaaaaa	3900
aaaaaaaaaa	aaaaaaaaaa					3920

<210> 9
<211> 1677
<212> DNA
<213> *Homo sapiens*

<400> 9
cctttgggg catgttgate cgccgcgtcg ctccatgttc cagttcatg caggctttg 60
ggaaagctgg tgctgctgct gcctgattcc cgccgcacaga ccttgggacc ggggccaaca 120
ctggcagctg gagatggcg acacgcgatc cgtgcacgag actaggttt aggccggcg 180
gaaggtgatc cagagttgc cgaagaatgg ttcattccag ccaacaaatg aaatgatgt 240
taaattttat agcttctata agcaggcaac tgaaggacc tgtaaacttt caaggcctgg 300
attttggat cctattggaa gatataaatg ggtatgcttg agttcactgg gtgatatgac 360
caaagaggaa gccatgatt catatgttga agaaaatgaaa aagattattt aaactatgcc 420
aatgactgag aaagttgaag aattgctgctg tgcataatgt ccattttatg aaattgtcga 480
ggacaaaaaag agtggccagga gttctgat aacctcagtc cgactggaga aaatctctaa 540
atgttttagaa gatcttgta atgttctcac ttctactcca aacgccaaaa ccgttaatgg 600
taaagctgaa agcagtgaca gtggagccga gtctgaggaa gaagaggccc aagaagaagt 660
gaaaggagca gaacaaaatg ataatgataa gaaaatgtat aagaagtctg cagaccataa 720
gaatttggaa gtcattgtca ctaatggcta tgataaagat ggctttgttc aggatataaca 780
gaatgacatt catgccagtt ctccctgaa tggcagaagc actgaagaag taaaagcccat 840
tgatgaaaac ttggggcaaa ctggaaaatc tgcgtttgc attcaccatg atataaatg 900
tqatcatgtt qaaqatgtta caggaattca gcatttgaca agcgattctg acagtqaagt 960

ttactgtat tctatggAAC aatttggACA agaagagtCTt tagacAGCt ttacgtccaa 1020
caatggACCA tttcagtatt acttgggtgg tcattccAGT caaccatgg aaaattctgg 1080
atttcgtgAA gatattcaag tacctcctgg aaatggcaac attgggaata tgCAGGtggt 1140
tgCAGGtgAA ggAAAAGGTg aagtcaagCA tggaggagAA gatggcAGGA ataacAGCgg 1200
agcactacAC cgggagaAGC gaggcggAGA aactgacgAA ttctctaAtg ttAgAAGAGg 1260
aaggaggACat aggatgcaAC acttgagcGA aggaaccaAG ggCCGGcAGG tggGAAGTgg 1320
aggtgatggg gagcgctggg gctccgACAG agggtcccga ggcAGCCTCA atgAGCAGAT 1380
cgccctcgTG ctgatgAGAC tgcaggAGGA catgcAGAAT gtccttcAGA gACTGcAGAA 1440
actggAAACG ctgactgCTT tgcaggcAAAt atcatcaACAt tcaacattGC agactgctCC 1500
tcagcccAcc tcacAGAGAC catcttggtg gcccttcgAG atgtctcctg gtgtgctaAC 1560
gtttgccatc atatggcTT ttattgcaca gtggttggtg tatttataCT atcaaAGAAG 1620
gagaagaaaa ctgAACTgAG gaaaatggtg tttcctCAA gaagaataCT ggaACTg 1677

<210> 10
<211> 534
<212> PRT
<213> Homo sapiens

<400> 10
Met Phe Gln Phe His Ala Gly Ser Trp Glu Ser Trp Cys Cys Cys Cys
1 5 10 15
Leu Ile Pro Ala Asp Arg Pro Trp Asp Arg Gly Gln His Trp Gln Leu
20 25 30
Glu Met Ala Asp Thr Arg Ser Val His Glu Thr Arg Phe Glu Ala Ala
35 40 45
Val Lys Val Ile Gln Ser Leu Pro Lys Asn Gly Ser Phe Gln Pro Thr
50 55 60
Asn Glu Met Met Leu Lys Phe Tyr Ser Phe Tyr Lys Gln Ala Thr Glu
65 70 75 80
Gly Pro Cys Lys Leu Ser Arg Pro Gly Phe Trp Asp Pro Ile Gly Arg
85 90 95
Tyr Lys Trp Asp Ala Trp Ser Ser Leu Gly Asp Met Thr Lys Glu Glu
100 105 110
Ala Met Ile Ala Tyr Val Glu Glu Met Lys Lys Ile Ile Glu Thr Met
115 120 125
Pro Met Thr Glu Lys Val Glu Glu Leu Leu Arg Val Ile Gly Pro Phe
130 135 140
Tyr Glu Ile Val Glu Asp Lys Lys Ser Gly Arg Ser Ser Asp Ile Thr
145 150 155 160
Ser Val Arg Leu Glu Lys Ile Ser Lys Cys Leu Glu Asp Leu Gly Asn
165 170 175
Val Leu Thr Ser Thr Pro Asn Ala Lys Thr Val Asn Gly Lys Ala Glu
180 185 190
Ser Ser Asp Ser Gly Ala Glu Ser Glu Glu Glu Ala Gln Glu Glu

195	200	205
Val Lys Gly Ala Glu Gln Ser Asp Asn Asp Lys Lys Met Met Lys Lys		
210	215	220
Ser Ala Asp His Lys Asn Leu Glu Val Ile Val Thr Asn Gly Tyr Asp		
225	230	235
240		
Lys Asp Gly Phe Val Gln Asp Ile Gln Asn Asp Ile His Ala Ser Ser		
245	250	255
Ser Leu Asn Gly Arg Ser Thr Glu Glu Val Lys Pro Ile Asp Glu Asn		
260	265	270
Leu Gly Gln Thr Gly Lys Ser Ala Val Cys Ile His Gln Asp Ile Asn		
275	280	285
Asp Asp His Val Glu Asp Val Thr Gly Ile Gln His Leu Thr Ser Asp		
290	295	300
Ser Asp Ser Glu Val Tyr Cys Asp Ser Met Glu Gln Phe Gly Gln Glu		
305	310	315
320		
Glu Ser Leu Asp Ser Phe Thr Ser Asn Asn Gly Pro Phe Gln Tyr Tyr		
325	330	335
Leu Gly Gly His Ser Ser Gln Pro Met Glu Asn Ser Gly Phe Arg Glu		
340	345	350
Asp Ile Gln Val Pro Pro Gly Asn Gly Asn Ile Gly Asn Met Gln Val		
355	360	365
Val Ala Val Glu Gly Lys Gly Glu Val Lys His Gly Gly Glu Asp Gly		
370	375	380
Arg Asn Asn Ser Gly Ala Leu His Arg Glu Lys Arg Gly Gly Glu Thr		
385	390	395
400		
Asp Glu Phe Ser Asn Val Arg Arg Gly Arg Gly His Arg Met Gln His		
405	410	415
Leu Ser Glu Gly Thr Lys Gly Arg Gln Val Gly Ser Gly Gly Asp Gly		
420	425	430
Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu Gln		
435	440	445
Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val Leu		
450	455	460
Gln Arg Leu Gln Lys Leu Glu Thr Leu Thr Ala Leu Gln Ala Lys Ser		
465	470	475
480		
Ser Thr Ser Thr Leu Gln Thr Ala Pro Gln Pro Thr Ser Gln Arg Pro		
485	490	495
Ser Trp Trp Pro Phe Glu Met Ser Pro Gly Val Leu Thr Phe Ala Ile		

500	505	510
Ile Trp Pro Phe Ile Ala Gln Trp Leu Val Tyr Leu Tyr Tyr Gln Arg		
515	520	525
Arg Arg Arg Lys Leu Asn		
530		
<210> 11		
<211> 89		
<212> PRT		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence: Acyl CoA		
binding protein domain sequence		
<400> 11		
Leu Gln Glu Asp Phe Glu Ala Ala Ala Glu Lys Val Lys Lys Leu Lys		
1	5	10
		15
Lys Asn Gly Pro Val Lys Pro Ser Asn Glu Glu Lys Leu Lys Leu Tyr		
20	25	30
Ser Leu Tyr Lys Gln Ala Thr Val Gly Asp Val Asn Thr Glu Arg Pro		
35	40	45
Gly Met Phe Asp Leu Lys Gly Arg Ala Lys Trp Asp Ala Trp Asn Glu		
50	55	60
Leu Lys Gly Met Ser Lys Glu Glu Ala Met Lys Ala Tyr Ile Ala Lys		
65	70	75
		80
Val Glu Glu Leu Ile Ala Lys Tyr Ala		
85		
<210> 12		
<211> 89		
<212> PRT		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence: Acyl CoA		
binding protein domain sequence		
<400> 12		
Leu Gln Glu Asp Phe Glu Ala Ala Ala Glu Lys Val Lys Lys Leu Lys		
1	5	10
		15
Lys Asn Gly Pro Val Lys Pro Ser Asn Glu Glu Lys Leu Lys Leu Tyr		
20	25	30
Ser Leu Tyr Lys Gln Ala Thr Val Gly Asp Val Asn Thr Glu Arg Pro		
35	40	45

Gly Met Phe Asp Leu Lys Gly Arg Ala Lys Trp Asp Ala Trp Asn Glu
 50 55 60

 Leu Lys Gly Met Ser Lys Glu Glu Ala Met Lys Ala Tyr Ile Ala Lys
 65 70 75 80

 Val Glu Glu Leu Ile Ala Lys Tyr Ala
 85

<210> 13
<211> 534
<212> PRT
<213> Homo sapiens

<220>
<221> misc_feature
<222> (3)...(3)
<223> "Xaa" = "Ile", "Leu", "Val" or "Phe"

<400> 13
Met Tyr Xaa Phe His Ala Gly Ser Trp Glu Ser Trp Cys Cys Cys Cys
 1 5 10 15

Leu Ile Pro Ala Asp Arg Pro Trp Asp Arg Gly Gln His Trp Gln Leu
 20 25 30

Glu Met Ala Asp Thr Arg Ser Val His Glu Thr Arg Phe Glu Ala Ala
 35 40 45

Val Lys Val Ile Gln Ser Leu Pro Lys Asn Asp Ser Phe Gln Pro Thr
 50 55 60

Asn Glu Met Met Leu Lys Phe Tyr Ser Phe Tyr Lys Gln Ala Thr Glu
 65 70 75 80

Gly Pro Cys Lys Leu Ser Arg Pro Gly Phe Trp Asp Pro Ile Gly Arg
 85 90 95

Tyr Lys Trp Asp Ala Trp Ser Ser Leu Gly Asp Met Thr Lys Glu Glu
 100 105 110

Ala Met Ile Ala Tyr Val Glu Glu Met Lys Lys Ile Ile Glu Thr Met
 115 120 125

Pro Met Thr Glu Lys Val Glu Glu Leu Leu Arg Val Ile Gly Pro Phe
 130 135 140

Tyr Glu Ile Val Glu Asp Lys Lys Ser Gly Arg Ser Ser Asp Ile Thr
 145 150 155 160

Ser Val Arg Leu Glu Lys Ile Ser Lys Cys Leu Glu Asp Leu Gly Asn
 165 170 175

Val Leu Thr Ser Thr Pro Asn Ala Lys Thr Val Asn Gly Lys Ala Glu
 180 185 190

Ser Ser Asp Ser Gly Ala Glu Ser Glu Glu Glu Ala Gln Glu Glu
 195 200 205
 Val Lys Gly Ala Glu Gln Ser Asp Asn Asp Lys Lys Met Met Lys Lys
 210 215 220
 Ser Ala Asp His Lys Asn Leu Glu Val Ile Val Thr Asn Gly Tyr Asp
 225 230 235 240
 Lys Asp Gly Phe Val Gln Asp Ile Gln Asn Asp Ile His Ala Ser Ser
 245 250 255
 Ser Leu Asn Gly Arg Ser Thr Glu Glu Val Lys Pro Ile Asp Glu Asn
 260 265 270
 Leu Gly Gln Thr Gly Lys Ser Ala Val Cys Ile His Gln Asp Ile Asn
 275 280 285
 Asp Asp His Val Glu Asp Val Thr Gly Ile Gln His Leu Thr Ser Asp
 290 295 300
 Ser Asp Ser Glu Val Tyr Cys Asp Ser Met Glu Gln Phe Gly Gln Glu
 305 310 315 320
 Glu Ser Leu Asp Ser Phe Thr Ser Asn Asn Gly Pro Phe Gln Tyr Tyr
 325 330 335
 Leu Gly Gly His Ser Ser Gln Pro Met Glu Asn Ser Gly Phe Arg Glu
 340 345 350
 Asp Ile Gln Val Pro Pro Gly Asn Gly Asn Ile Gly Asn Met Gln Val
 355 360 365
 Val Ala Val Glu Gly Lys Gly Glu Val Lys His Gly Gly Glu Asp Gly
 370 375 380
 Arg Asn Asn Ser Gly Ala Pro His Arg Glu Lys Arg Gly Gly Glu Thr
 385 390 395 400
 Asp Glu Phe Ser Asn Val Arg Arg Gly Arg His Arg Met Gln His
 405 410 415
 Leu Ser Glu Gly Thr Lys Gly Arg Gln Val Gly Ser Gly Gly Asp Gly
 420 425 430
 Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu Gln
 435 440 445
 Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val Leu
 450 455 460
 Gln Arg Leu Gln Lys Leu Glu Thr Leu Thr Ala Leu Gln Ala Lys Ser
 465 470 475 480
 Ser Thr Ser Thr Leu Gln Thr Ala Pro Gln Pro Thr Ser Gln Arg Pro
 485 490 495

Ser Trp Trp Pro Phe Glu Met Ser Pro Gly Val Leu Thr Phe Ala Ile
 500 505 510
 Ile Trp Pro Phe Ile Ala Gln Trp Leu Val Tyr Leu Tyr Tyr Gln Arg
 515 520 525
 Arg Arg Arg Lys Leu Asn
 530

<210> 14
 <211> 536
 <212> PRT
 <213> Homo sapiens

<400> 14
 Met Leu Phe Leu Ser Phe His Ala Gly Ser Trp Glu Ser Trp Cys Cys
 1 5 10 15
 Cys Cys Leu Ile Pro Ala Asp Arg Pro Trp Asp Arg Gly Gln His Trp
 20 25 30
 Gln Leu Glu Met Ala Asp Thr Arg Ser Val His Glu Thr Arg Phe Glu
 35 40 45
 Ala Ala Val Lys Val Ile Gln Ser Leu Pro Lys Asn Gly Ser Phe Gln
 50 55 60
 Pro Thr Asn Glu Met Met Leu Lys Phe Tyr Ser Phe Tyr Lys Gln Ala
 65 70 75 80
 Thr Glu Gly Pro Cys Lys Leu Ser Arg Pro Gly Phe Trp Asp Pro Ile
 85 90 95
 Gly Arg Tyr Lys Trp Asp Ala Trp Ser Ser Leu Gly Asp Met Thr Lys
 100 105 110
 Glu Glu Ala Met Ile Ala Tyr Val Glu Glu Met Lys Lys Ile Ile Glu
 115 120 125
 Thr Met Pro Met Thr Glu Lys Val Glu Glu Leu Leu Arg Val Ile Gly
 130 135 140
 Pro Phe Tyr Glu Ile Val Glu Asp Lys Lys Ser Gly Arg Ser Ser Asp
 145 150 155 160
 Ile Thr Ser Val Arg Leu Glu Lys Ile Ser Lys Cys Leu Glu Asp Leu
 165 170 175
 Gly Asn Val Leu Thr Ser Thr Pro Asn Ala Lys Thr Val Asn Gly Lys
 180 185 190
 Ala Glu Ser Ser Asp Ser Gly Ala Glu Ser Glu Glu Glu Ala Gln
 195 200 205
 Glu Glu Val Lys Gly Ala Glu Gln Ser Asp Asn Asp Lys Lys Met Met
 210 215 220

Lys Lys Ser Ala Asp His Lys Asn Leu Glu Val Ile Val Thr Asn Gly
 225 230 235 240

 Tyr Asp Lys Asp Gly Phe Val Gln Asp Ile Gln Asn Asp Ile His Ala
 245 250 255

 Ser Ser Ser Leu Asn Gly Arg Ser Thr Glu Glu Val Lys Pro Ile Asp
 260 265 270

 Glu Asn Leu Gly Gln Thr Gly Lys Ser Ala Val Cys Ile His Gln Asp
 275 280 285

 Ile Asn Asp Asp His Val Glu Asp Val Thr Gly Ile Gln His Leu Thr
 290 295 300

 Ser Asp Ser Asp Ser Glu Val Tyr Cys Asp Ser Met Glu Gln Phe Gly
 305 310 315 320

 Gln Glu Glu Ser Leu Asp Ser Phe Thr Ser Asn Asn Gly Pro Phe Gln
 325 330 335

 Tyr Tyr Leu Gly Gly His Ser Ser Gln Pro Met Glu Asn Ser Gly Phe
 340 345 350

 Arg Glu Asp Ile Gln Val Pro Pro Gly Asn Gly Asn Ile Gly Asn Met
 355 360 365

 Gln Val Val Ala Val Glu Gly Lys Gly Glu Val Lys His Gly Gly Glu
 370 375 380

 Asp Gly Arg Asn Asn Ser Gly Ala Pro His Arg Glu Lys Arg Gly Gly
 385 390 395 400

 Glu Thr Asp Glu Phe Ser Asn Val Arg Arg Gly Arg Gly His Arg Met
 405 410 415

 Gln His Leu Ser Glu Gly Thr Lys Gly Arg Gln Val Gly Ser Gly Gly
 420 425 430

 Asp Gly Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn
 435 440 445

 Glu Gln Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn
 450 455 460

 Val Leu Gln Arg Leu Gln Lys Leu Glu Met Leu Thr Ala Leu Gln Ala
 465 470 475 480

 Lys Ser Ser Thr Ser Thr Leu Gln Thr Ala Pro Gln Pro Thr Ser Gln
 485 490 495

 Arg Pro Ser Trp Trp Pro Phe Glu Met Ser Pro Gly Val Leu Thr Phe
 500 505 510

 Ala Ile Ile Trp Pro Phe Ile Ala Gln Trp Leu Val Tyr Leu Tyr Tyr
 515 520 525

Gln Arg Arg Arg Arg Lys Leu Asn
530 535

<210> 15
<211> 533
<212> PRT
<213> Homo sapiens

<400> 15
Met Phe Gln Phe His Ala Gly Ser Trp Glu Ser Trp Cys Cys Cys Cys
1 5 10 15
Cys Leu Ile Pro Gly Asp Arg Pro Trp Asp Arg Gly Arg Arg Trp Arg
20 25 30
Leu Glu Met Arg His Thr Arg Ser Val His Glu Thr Arg Phe Glu Ala
35 40 45
Ala Val Lys Val Ile Gln Ser Leu Pro Lys Asn Gly Ser Phe Gln Pro
50 55 60
Thr Asn Glu Met Met Leu Lys Phe Tyr Ser Phe Tyr Lys Gln Ala Thr
65 70 75 80
Glu Gly Pro Cys Lys Leu Ser Lys Pro Gly Phe Trp Asp Pro Val Gly
85 90 95
Arg Tyr Lys Trp Asp Ala Trp Ser Ser Leu Gly Asp Met Thr Lys Glu
100 105 110
Glu Ala Met Ile Ala Tyr Val Glu Glu Met Lys Lys Ile Leu Glu Thr
115 120 125
Met Pro Met Thr Glu Lys Val Glu Glu Leu Leu His Val Ile Gly Pro
130 135 140
Phe Tyr Glu Ile Val Glu Asp Lys Ser Gly Arg Ser Ser Asp Leu
145 150 155 160
Thr Ser Val Arg Leu Glu Lys Ile Ser Lys Cys Leu Glu Asp Leu Gly
165 170 175
Asn Val Leu Ala Ser Thr Pro Asn Ala Lys Thr Val Asn Gly Lys Ala
180 185 190
Glu Ser Ser Asp Ser Gly Ala Glu Ser Glu Glu Glu Ala Ala Gln Glu
195 200 205
Asp Pro Lys Arg Pro Glu Pro Arg Asp Ser Asp Lys Lys Met Met Lys
210 215 220
Lys Ser Ala Asp His Lys Asn Leu Glu Ile Ile Val Thr Asn Gly Tyr
225 230 235 240
Asp Lys Asp Ser Phe Val Gln Gly Val Gln Asn Ser Ile His Thr Ser

245	250	255
Pro Ser Leu Asn Gly Arg Cys Thr Glu Glu Val Lys Ser Val Asp Glu		
260	265	270
Asn Leu Glu Gln Thr Gly Lys Thr Val Val Phe Val His Gln Asp Val		
275	280	285
Asn Ser Asp His Val Glu Asp Ile Ser Gly Ile Gln His Leu Thr Ser		
290	295	300
Asp Ser Asp Ser Glu Val Tyr Cys Asp Ser Met Glu Gln Phe Gly Gln		
305	310	315
Glu Glu Ser Leu Asp Gly Phe Ile Ser Asn Asn Gly Pro Phe Ser Tyr		
325	330	335
Tyr Leu Gly Gly Asn Pro Ser Gln Pro Leu Glu Ser Ser Gly Phe Pro		
340	345	350
Glu Ala Val Gln Gly Leu Pro Gly Asn Gly Ser Pro Glu Asp Met Gln		
355	360	365
Gly Ala Val Val Glu Gly Lys Gly Glu Val Lys Arg Gly Gly Glu Asp		
370	375	380
Gly Gly Ser Asn Ser Gly Ala Pro His Arg Glu Lys Arg Ala Gly Glu		
385	390	395
Ser Glu Glu Phe Ser Asn Ile Arg Arg Gly Arg Gly His Arg Met Gln		
405	410	415
His Leu Ser Glu Gly Ser Lys Gly Arg Gln Val Gly Ser Gly Gly Asp		
420	425	430
Gly Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu		
435	440	445
Gln Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val		
450	455	460
Leu Gln Arg Leu His Lys Leu Glu Met Leu Ala Ala Ser Gln Ala Lys		
465	470	475
Ser Ser Ala Leu Gln Thr Ser Asn Gln Pro Thr Ser Pro Arg Pro Ser		
485	490	495
Trp Trp Pro Phe Glu Met Ser Pro Gly Ala Leu Thr Phe Ala Ile Ile		
500	505	510
Trp Pro Phe Ile Ala Gln Trp Leu Val His Leu Tyr Tyr Gln Arg Arg		
515	520	525
Arg Arg Lys Leu Asn		
530		

<210> 16	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: PCR Primer	
Sequence	
<400> 16	22
ccttttgggg catgttgatc cg	
<210> 17	
<211> 32	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: PCR Primer	
Sequence	
<400> 17	32
cagtccagg agtcttcttg aggaaaacac ca	
<210> 18	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: PCR Primer	
Sequence	
<400> 18	22
aggcaaaatc atcaacatca ac	
<210> 19	
<211> 26	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: PCR Primer	
Sequence	
<400> 19	26
ctcagccac ctcacagaga ccatct	
<210> 20	
<211> 22	
<212> DNA	
<213> Artificial Sequence	

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 20
ttagcacacc aggagacatc tc

22

<210> 21
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 21
aatcatcaac atcaaacattg ca

22

<210> 22
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 22
ctcagcccac ctcacagaga ccatct

26

<210> 23
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 23
gttagcacac caggagacat ct

22

<210> 24
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 24

atcagaactc ctgccactct tt 22

<210> 25
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 25
tggacctatg acacgcagca attctt 26

<210> 26
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 26
atgccaatga ctgagaaaagt tg 22

<210> 27
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 27
tattacttgg gtggtcattc ca 22

<210> 28
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 28
caaccatgg aaaattctgg atttcg 26

<210> 29
<211> 22

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 29
atattcccaa tggccatt tc 22

<210> 30
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 30
agaaaaccac aggaagaatg gt 22

<210> 31
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 31
cacttgtgg gctgccata atcttt 26

<210> 32
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 32
ataatgatgc ctgaacacca aa 22

<210> 33
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer

Sequence

<400> 33
aggcaaaatc atcaacatca ac 22

<210> 34
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 34
ctcagcccac ctcacagaga ccatct 26

<210> 35
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 35
ttagcacacc aggagacatc tc 22

<210> 36
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 36
gacctatgac acgcagcaat 20

<210> 37
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 37
tcttcaactt tctcagtcat tggcat 26

<210> 38
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 38
ggaagccatg attgcatatg 20

<210> 39
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 39
aggcaaaaatc atcaacatca ac 22

<210> 40
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 40
ctcagccccac ctcacagaga ccatct 26

<210> 41
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 41
ttagcacacc aggagacatc tc 22

<210> 42
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 42
aatcatcaac atcaaacattg ca 22

<210> 43
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 43
ctcagcccac ctcacagaga ccatct 26

<210> 44
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 44
gttagcacac caggagacat ct 22

<210> 45
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 45
atcagaactc ctgccactct tt 22

<210> 46
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 46
tggacctatg acacgcagca attctt 26

<210> 47
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 47
atgccaaatga ctgagaaaagt tg 22

<210> 48
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 48
tattacttgg gtggtcattc ca 22

<210> 49
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 49
caacccatgg aaaattctgg atttcg 26

<210> 50
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 50
atattcccaa tgttgccatt tc 22

<210> 51

<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 51
aggcaaaaatc atcaacatca ac 22

<210> 52
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 52
ctcagcccac ctcacagaga ccatct 26

<210> 53
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 53
ttagcacacc aggagacatc tc 22

<210> 54
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 54
gacctatgac acgcagcaat 20

<210> 55
<211> 26
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer Sequence	
<400> 55	
tcttcaacctt tctcagtcat tggcat	26
<210> 56	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: PCR Primer Sequence	
<400> 56	
ggaagccatg attgcatatg	20
<210> 57	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: PCR Primer Sequence	
<400> 57	
tggcaggagt tctgatataa cc	22
<210> 58	
<211> 26	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: PCR Primer Sequence	
<400> 58	
tcagtccgac tggagaaaat ctctaa	26
<210> 59	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: PCR Primer Sequence	
<400> 59	
gcgtttggag tagaagttag aa	22

<210> 60
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 60
tggcaggagt tctgatataa cc

22

<210> 61
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 61
tcagtcgcac tggagaaaaat ctctaa

26

<210> 62
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 62
gcgtttggag tagaagttag aa

22